

SCIENCE & GOVERNMENT REPORT

19th Year of Publication
The Independent Bulletin of Science Policy

Volume XIX, No. 17

P. O. Box 6226A, Washington, D. C. 20015

© November 1, 1989

The Science Adviser and the Senators

A Bad Day on Capitol Hill for Dr. D. Allan Bromley

AID Malaria Research Program Assailed in Report to Congress

For one relatively small research enterprise, the malaria vaccine program of the US Agency for International Development continues to produce bumper crops of scandal and pungent scents of an official coverup of failed responsibility.

The malaria mess, which was first brought to public attention by SGR (June 15, 1988: "Turmoil in Malaria R&D Program Spurs Congressional Inquiry") has recently yielded three criminal indictments, plus a report by the General Accounting Office (GAO) alleging extensive "fraud, waste, and misuse of project funds." There are also hints of a money-laundering operation involving over \$140,000 in AID research funds in Colombia that inexplicably ended up in a numbered Swiss bank account.

Those indicted are: James M. Erickson, ousted manager of the research program, who's accused in one federal count

A Defense of Pork-Barrel Funds—P. 5 For Education, NSF Head Says—P. 7

of misleading his superiors on a peer-review report of a research project that he funded; Wassim Siddiqui, Chairman of the University of Hawaii Department of Tropical Medicine, and Susan Lofton, his administrative assistant, accused in a Hawaii state indictment of misappropriating over \$130,000 in malaria program funds. All of them say the charges are unfounded.

Additional criminal investigations are reported to be in progress, including one focused on the American Institute for Biological Sciences (AIBS), which has administered the multi-center research program for AID since 1982. The GAO report also states, without offering any details, that AID's Inspector General "has information that the principle researcher of the University of Illinois has diverted AID funds to personal use. University auditors are investigating the researcher's activities."

AID is also accused by the GAO of acquiring thousands of monkeys without a plan for using them and also of making costly preparations for human field trials of a vaccine that neither exists nor is on the scientific horizon.

And then, too, there's farce, including AID's award of three merit salary increases to Erickson, the ousted long-time manager of the malaria program. The increases, about \$600 each, were awarded for service during a two-year

(Continued on Page 6)

D. Allan Bromley, the President's Science Adviser, lost his halo on Capitol Hill last week.

It was swept away when a pair of Senators, focusing on the Administration's torpor on environmental issues, subjected him to 55 minutes of harsh grilling. The gentlemanly, silver-haired Bromley stood up to the Senators throughout most of the ordeal. But at times, he sounded foolish and even uninformed as he dutifully attempted to defend the Administration's weak environmental performance against vintage Congressional bombast. For Bromley, a Yale physicist who took office in August, the hearing marked the end of a honeymoon with Congress, which had warmly welcomed him after despairing about the lack of science counsel at the White House in the opening stages of the Bush Administration.

The Science Adviser was there to introduce two shoo-in
(Continued on Page 2)

In Brief

Has Rep. John Dingell (D-Mich.) decided he's had enough of the David Baltimore affair following a bad round of publicity from his hearing-room encounter with the Nobel laureate in May? Not at all, according to a senior aide to Dingell, Pete Stockton, who says the Congressman's Oversight and Investigations Subcommittee is now heavily booked with hearings, but will get back to Baltimore "in a big way" before the end of the year.

Slow Motion on Constitution Ave. An entry in the 1989 directory of the National Academy of Sciences, under the heading "Panel on Real-Time Earthquake Warning," states, "The panel is to report on the subject by June 30, 1988." Where's the report? An NAS staff member told SGR last week that the due date was incorrectly stated; it should have been June 1989, he said. Then where's the report? Answer: It can be expected "between now and the end of the year."

A new mood of austerity at the American Association for the Advancement of Science has led to the termination of one of the few innovations of recent years at the financially stagnant organization. *AAAS Observer*, a bimonthly focused on AAAS affairs, and distributed to the membership, is to be discontinued. The publication, founded two years ago, cost the AAAS about \$110,000 a year.

Environmental news has been given a higher priority at the New York Times with the appointment of an "environmental czar," Dan Lewis, a deputy national editor who's to stimulate and coordinate coverage of the subject. Reporters on all beats have been instructed to look for an environmental angle.

. . . Reported Restraints on EPA Chief Draws Fire

(Continued from Page 1)

nominees for his staff to their Senate confirmation hearing, normally a routine, backslapping ceremonial. Instead, Bromley, who chairs a White House Domestic Policy Council working group on global warming, found himself cast as a punching bag on the environment issue. Along with education, drugs, and deficit reduction, it is one on which the Bush Administration has mainly confined its efforts to occupying the rhetorical high ground—to the dismay of Congressional Democrats.

Bromley's encounter with the rough side of Capitol Hill was precipitated by recent press reports concerning the Bush Administration's wariness toward a 70-nation meeting on global change that the Dutch government will hold in The Hague starting November 6. Apparently fearful that the meeting might produce strong and economically disruptive proposals for lessening carbon-dioxide emissions, the White House, according to leaked reports, had told the head of the Environmental Protection Agency, William K. Reilly, not to commit the US to anything but more research. The reports claimed he was also instructed to lie low on Bush's campaign pledge to convene an American-sponsored, grand-scale international environmental pow-wow. Some reports had it that Reilly had been instructed to stay home, and let the delegation—of which Bromley is a member—go to The Hague without him.

Following an environmental lobby uproar about Reilly's muzzling, a White House spokesman vaguely said the reports of restraints on the EPA chief were erroneous, but, in any case, it was clear that the Bush Administration was not gung-ho for the Dutch meeting or the promised American meeting. While that episode was fresh in Congressional minds, Bromley fortuitously showed up on October 27 to introduce two nominees for Associate Director positions in his office, James B. Wyngaarden, former Director of the National Institutes of Health, and J. Thomas Ratchford, Associate Executive Officer of the American Association for the Advancement of Science.

However, their day on Capitol Hill was quickly overshadowed as Bromley was confronted by Senator Albert Gore (D-Tenn.), Chairman of the Commerce, Science, Space, and Technology Committee, who has been riding environmental and science-policy issues. To avoid the impression of an ambush, Gore stated that he had given Bromley advance notice that the environment had been added to the agenda of the confirmation hearing. Then Gore, obviously well-briefed on global warming and related matters, let loose.

At the "G-7" summit of major industrial powers in Paris in June, Gore began, President Bush had unequivocally endorsed a strong, multi-nation declaration for prompt, international collaboration on global warming. The declaration, Gore continued, called for adoption of "a framework or umbrella convention on climate change" to set out

general principles for further research and immediate efforts to control greenhouse gases. "That seems to imply that the President believes we urgently need a convention on global climate change and common efforts to limit emission of carbon dioxide and other greenhouse gases. . . Do you agree with that?" Gore asked.

Bromley responded that he did, but promptly proceeded to tell Gore that insufficient attention has been devoted to "the economic consequences" of dealing with global change. To remedy this, he said, "we will draw on a largely untapped resource we have in this country, the private sector," which "has been relatively little involved in our global-change discussions thus far. . ."

Bromley added that the Presidential statement quoted by Gore "is a very fair representation" of his own views, but explained that the President also believes that "we should not move forward" until the completion of ongoing research in the International Program on Climate Change (IPCC), a three-pronged UN-sponsored effort headed by the US, Britain, and the USSR. The stage was thus set and the dialog (abbreviated by SGR) proceeded as follows:

Gore. What you're saying is that you disagree with the statement signed by the President. You believe that it's premature to limit emissions of carbon dioxide and other greenhouse gases and premature to enter into a framework or umbrella convention.

Bromley. That is not what I am saying, sir. I am agreeing with the position taken by the President. It is simply a question of the definition of "urgent," and I submit to you that in matters of this potential consequence, we should not move without the best understanding we can get. We have a process in place to obtain that understanding.

Gore. I'm trying to get you to answer the question, Dr. Bromley, on this simple point: Do you believe that it is inappropriate for us to enter into a framework convention, or begin to reduce greenhouse-gas emissions, prior to the conclusion of the research underway in the IPCC process?

Bromley. I believe, sir, that we are committed as a

(Continued on Page 3)

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Independently published by Science & Government Report, Inc., twice monthly, except once each in January, July, August, and September. Annual subscriptions: Institutions, \$290.00 (two years, \$495.00). Bulk and individual rates upon request. Editorial offices at 3736 Kanawha St. NW, Washington, DC 20015. Tel. (202) 244-4135. For subscription service: PO Box 6226A, Washington, DC 20015. Tel. 1-800-522-1970; in Washington, DC 785-5054. Reproduction without permission is prohibited. SGR is available on University Microfilms International. Claims for missing back issues will be filed without charge if made within six weeks of publication date. ISSN 0048-9581.

. . . Bromley Insists Deliberations are Confidential

(Continued from Page 2)

nation—

Gore. [interrupting] I am asking for your opinion, Dr. Bromley, not your understanding of the nation's international agreements or obligations.

Bromley. My personal opinion, sir, is that we should have the best scientific understanding we can possibly obtain before we undertake major programs.

Gore. And you believe that we do not yet have sufficient scientific understanding of global climate change to justify either a framework convention or reductions of greenhouse-gas emissions. Is that correct?

Bromley. Not quite correct, sir. . . There are many areas where we can, in fact, take action and, I believe, should take aggressive action right now. These are cases where we have other reasons for taking action that will, in fact, reduce greenhouse-gas emissions. One is aggressive energy conservation; reforestation, wherever it's appropriate; doing whatever we can to retain what's left of the tropical rain forests. And then, domestically, we have made a number of moves, sir, in which you have been a leader: clean air, automotive mileage standards. We can go through a whole list where we have really taken a leading position in the entire world. We are already taking action to do many of these things.

Gore. Okay. Let me try again on the question of a framework convention. My understanding of what you're saying is that you believe it would be wrong for the United States to begin working on a framework convention now because the scientific evidence does not yet give us sufficient certainty to justify a framework convention. Is that fair or unfair?

Bromley. I'm afraid, sir, it is not my position. Let me try again, if I may, sir. There are two aspects here. The first is the framework convention, the second is the question of major activities of an ameliorative nature. In terms of the framework convention, I believe that we have made a commitment, and, as a member of this Administration, I feel that I am bound by that commitment to let the IPCC process work its way through in a professional fashion to a conclusion.

Gore. That's not a framework convention. You're mixing up two commitments, with all due respect. The first was the one you keep referring to with regard to letting the IPCC process work its will. The second is the one made by President Bush at the conclusion of the G7 summit, and what you're saying here is in contradiction to what President Bush agreed to in the statement in Paris.

Bromley. With all respect, sir, I would have to differ. I said that the first part had to do with the commitment this Administration had made, which I support without question. The second thing has to do with the question of undertaking major programs to limit emission of greenhouse gases beyond those for which we have other compelling argu-

ments. My belief is that we should not move forward on major programs until we have a reasonable understanding of the scientific and economic consequences of those programs.

Gore. And so as a result, then you believe it would be wrong for the US delegation in The Netherlands—a delegation you will be a member of—to actively discuss at that conference our views on the elements of a global-climate convention. You believe that would be premature.

Bromley. It would be improper for me, sir, to arrive or tell you the conclusion of that sort on my part prior to the meeting we're holding on Monday [October 30] to arrive at an official position for the delegation of which I will be a member.

Gore. If you are now in charge of the Executive Branch policy and you're asked a question about your personal views about that policy, why is it improper for you to give those views?

Bromley. Because I will be bound by the results of our deliberations on Monday, rather than by any personal views that I may take into that meeting on Monday.

Gore. Does that mean that you have a Constitutional right to avoid the embarrassment which might result from a difference between your personal views and the outcome of that meeting?

Bromley. Not at all, sir, but when I go into a meeting of this sort with a group of distinguished colleagues, I expect to learn from that meeting. I don't go in with a total preconceived view.

Gore. So you have no view on that question.

Bromley. That is not the same thing, sir.

Gore. Well, what is your view on that question?

Bromley. My view is that I will listen to the discussion on Monday and at that time will decide with my colleagues what our official view will be as we arrive in The Hague.

Gore. Do you believe that the doubling of carbon dioxide in the atmosphere which will occur within the next 40 years or thereabouts, compared to pre-industrial levels, is likely to result in global warming?

Bromley. I believe, sir, it is certainly possible and probable to some degree. But that is as far as I can say on the basis of the evidence. The most recent calculations [based on new modeling by the British Meteorological Office] show a decrease by a factor of two and more by the first simple correction that has been corrected to those models. My answer will have to be that I simply don't know, sir.

Gore. The model you referred to after correction said only three and a half degrees Fahrenheit worldwide. Is that reassuring?

Bromley. That number is not reassuring to me. But the fact is, sir, that any model which can have its results changed by factors of two—it happened to be downward in this case—it might be upward in the next correction. Until some

(Continued on Page 4)

... Clash Over Adequacy of Scientific Knowledge

(Continued from Page 3)

of these additional corrections are put in and evaluated, as a scientist, I do not know what the results will be to within a very large uncertainty.

Gore. If it were only a matter of intellectual curiosity, the nation could afford infinite delay and procrastination and further research to resolve every last uncertainty. But you are now in charge of helping to decide whether or not we *do* anything. And since the consequences of doing nothing may very well be catastrophic changes to the global environment of a larger magnitude than any we have seen in the last 50,000 years, the consequences are not merely intellectual. What is your view of the record CO₂ concentrations and temperature variation in the ice cores? As the CO₂ concentrations went up and down, the temperature went up and down in exact conformity for the last 160,000 years. Correct?

Bromley. Correct.

Gore. Do you believe that is a coincidence?

Bromley. No.

Gore. The highest concentrations during the last interglacial period were approximately 300 parts per million. Correct?

Bromley. That's correct.

Gore. There are more than 350 parts per million now. Do you believe that there is a strong likelihood that the connection which has been exact for the last 160,000 years is no longer valid?

Bromley. No, sir, I do not. But may I add, I agree with you entirely on the point that this is not a matter of intellectual curiosity. As I emphasized, we are talking about a matter of months until such time as the IPCC process completes.

Gore. No, you're talking more than a year. And other nations in the world are moving toward action. And they're asking why is the United States—the only nation which can really lead the world—dragging its feet. If you believe it's likely that the connection which we've seen for the last 160,000 years is still valid, and if we are continuing to increase CO₂ concentrations at the rate of 2.5 parts per million every year, and if the concentrations are now significantly higher than at any time that we can measure in the geological record, how high do you believe the concentrations of CO₂ should be allowed to get before that alone justifies action to reduce emissions of CO₂?

Bromley. First of all, you have repeated the fact that we are taking no action. I would submit to you, sir, that is not the case. We are taking action: clean air, limitations on our automobiles.

Gore. What limitations are there?

Bromley. To increase the CAFE [corporate average fuel efficiency] to 27.5 miles [per gallon].

Gore. The [Bush] Administration is opposed to increasing that.

Bromley. But it's happened.

Gore. Oh! Okay, go ahead.

Bromley. I think we, in a more global sense, sir—

Gore. [interrupting] Wait a minute, you [the Administration] just refused not to roll back, you didn't increase it. What are the other actions that were taken?

Bromley. We are actively working now on energy conservation. The Department of Energy has major activities underway there. We are working now toward reforestation in a number of areas. We are certainly discussing in every way we can with a number of our colleagues in possession of the tropical forests to come up with some kind of an arrangement which will prevent their destruction. I think it is unfair to say that we are taking no action. What we are not doing yet is taking major actions targeted directly and for no other reason than because of the CO₂ question. Given the uncertainty in all the modeling with which I am familiar, I simply cannot answer your question of what would be the level of CO₂ where something dramatic will happen. I don't know.

Senator John F. Kerry (D-Mass.) then took up the environmental issue with Bromley.

Kerry. How do you think it looks for the head of the Environmental Protection Agency to be really left to his own devices, to be cast adrift, and have it said to him, well, it's his decision. If he wants to go to The Netherlands, fine, if he doesn't want to go, that's his choice. Is that sending a message to those other countries that have assembled there and to the world environmental community that the United States cares about this?

Bromley. Senator, I'm not aware of any such conversation [regarding EPA Director Reilly's attendance at The Hague meeting].

Kerry. Let me quote you, according to White House spokesman Stephen Hart, in the *Washington Post*, I believe yesterday, "the decision is Mr. Reilly's to make." That's the quote. "Sources added that most members of the group, chaired by the President's Science Adviser, D. Allan Bromley, also expressed opposition to US participation in the meeting of 70 environmental ministers."

Bromley. Senator, I can only say that you as well as I know full well that the accuracy of leaks is not notably high.

Kerry. Is that accurate? Did you oppose it?

Bromley. Sir, it would be quite improper for me to tell you what went on in detail—

Kerry. [interrupting] Then we have to rely on the leaks. Correct?

Bromley. If you prefer.

Kerry. I don't prefer. I prefer to have you give me an answer.

Bromley. As I say, sir, it would be improper for me to leak what goes on within the confines of a Domestic Policy Council working group meeting.

Kerry. It's improper for a member of the President's
(Continued on Page 5)

... Evasive on Attitude Toward Hague Conference

(Continued from Page 4)

advisory group to tell the United States Senate Committee responsible for oversight, and which was responsible for your confirmation—it's improper for you to tell us what you advised as to a trip by somebody, whether or not they should go to The Netherlands and represent the Administration?

Bromley. Senator Kerry, the working group was discussing a whole series of options. What you have found in the *Washington Post* is the result of a leak, which is in no sense complete—

Kerry. [interrupting] Is it accurate as to whether you want Mr. Reilly to go to this conference? Do you want him to go or don't you want him to go?

Bromley. I am clearly going with Mr. Reilly as a member of his group.

Kerry. Did you want him to go? Do you think this is advisable?

Bromley. As I said, sir, I am going with him. I am a full-fledged member of his group, supporting him in every way I can.

Kerry. Did you support his going?

Bromley. That is a question that is part of the workings of the DPC [Domestic Policy Council] working group which I will respectfully not answer, sir.

Kerry. Well, I would suggest that if you could answer it in the affirmative, you would be proud to come up here and sit in front of us and say, you're darn right I wanted him to go and we're taking leadership on this. And there wouldn't even be any issue. Why does the question of whether or not the Environmental Agency leader and the United States are going to The Netherlands even have to be an issue? What's the secrecy about this? What's the big deal?

Bromley. My hope, Senator, would have been that there was no big deal involved. This was a series of supposedly private discussions among the President's senior advisers working toward developing a governmental position. We are still working toward developing that position, and we will continue those discussions this coming Monday at a meeting chaired by Mr. Reilly in Mr. Reilly's office.

Kerry. Well, I got to tell you. I am really frustrated. This process gets reduced to silliness...Let's go back to the beginning. Secretary of State Baker, in his first big policy speech, addressed the first meeting of the IPCC's response strategy working group, and he said, and I quote: "We can probably not afford to wait until all the uncertainties have been resolved before we act. Time will not make the problem go away." That was terrific, well received, good rhetoric, good policy...Now, almost 10 months of an Administration's 48 months in office have gone. And nothing has happened in any one of those areas. There is no reforestation planned. There has been a "follow-ship" of Europe's leadership on CFCs [chlorofluorocarbons]. And on the energy efficiency, we have cuts in the budget in the most important research in those areas. I am just stunned by the lack of leadership here.

A Defense in the Senate of "Earmarked" Funds for Labs

In another successful year for "earmarked," or pork-barrel, appropriations for university research facilities, several basic positions have been clarified on Capitol Hill. Senator Sam Nunn (D-Ga.), Chairman of the Armed Services Committee, thinks Congressionally earmarked funds are evil evasions of priority-making that belongs to scientists; he has dislodged many such items from the Pentagon budget. Senator Robert Byrd (D-W. Va.), Chairman of the Appropriations Committee, appears concerned only with assuring that earmarks are pursued by legislators, to the exclusion of mercenary lobbyists, against whom he has legislated new disclosure regulations. Then there's the widely held, but rarely enunciated, position that earmarks reflect legitimate political decision making and are not unwarranted political intrusions into scientific affairs. That's the position of Senator Howell T. Heflin (D-Ala.), recognized in his state as an accomplished supporter of its many federally financed research facilities, particularly in space and medicine. Following is an expression of Heflin's views, excerpted from the October 6 Congressional Record.

As I see it, those who oppose... projects on the grounds that they have not been subjected to peer review or "merit review"...are missing the fundamental distinction between funding for individual research projects and funding for research facilities. I believe that peer review is appropriate for decisions about the funding of individual research projects. Those are highly technical decisions, and they should be made by panels of scientific experts, people with strong technical backgrounds. Decisions about the location of research facilities are another matter entirely. These decisions require a whole range of social, economic, environmental, and political judgments, and in all humility, I believe we in the United States Senate are more qualified to make those judgments than panels of scientific experts.... We should not be turning them over to panels of experts, no matter how distinguished those experts might be.

One thing we can use in any debate on directly funded projects is accurate information on the existence of a peer-review process in the federal science agencies through which universities can compete for research facilities. The opponents of the project assume that such a process is fully operational and has somehow been circumvented. But that assumption is wrong. No such process is in existence at the present time, and until one is, there is nothing to circumvent.

Opponents of directly funded projects... tell us that if Congress funds such projects we are heading down the road toward mediocrity in research.... I believe on the contrary that such projects will improve the quality of scientific research in this country.

... Erickson Lost Post After Challenging AIBS

(Continued from Page 1)

period in which Erickson was on enforced administrative leave with pay, and was barred from even coming to the office.

Erickson was pushed out of AID in 1987 after he accused AIBS of poor performance on its \$8.3 million, five-year contract to run the malaria program. The basis for his ouster was a vague allegation that he had harassed AIBS employees, including a manager there with whom he had a romantic affair. However, after Erickson—a combative "whistleblower"—demanded in a federal court suit that AID identify the objects of his alleged harassments, AID dropped the charge and instead ruled him guilty of "conduct impacting on the efficiency of the service"—a non-appealable judgment. For that offense, he was docked one week's pay, but remained idled on administrative leave at a salary of approximately \$69,000.

AID managers, who revile Erickson and pushed strongly for the criminal indictment that was returned against him last week, explained to SGR that the merit increases emerge from the inexorable workings of the federal government's pay system.

The indictment, following a two-year investigation of Erickson's personal finances by the Justice Department and the AID Inspector General, is a flimsy piece of work, charging merely that in 1984 Erickson committed fraud by telling AID that a scientific review panel had approved a \$736,000 project award to KT&R Laboratories, of Stillwater, Minn., when, according to AID, the panel had recommended disapproval. Erickson, who was not accused of personally profiting from the award, told SGR that the panel turned in a mixed verdict and that he exercised his decision-making authority as program manager in recommending the project. AID's Bureau of Science and Technology, deeply bunkered down for the malaria-program crisis, rejected SGR's request for copies of the reviewers' evaluation.

AID's so-far futile quest for a malaria vaccine, which has cost \$96 million over the past 25 years, is to be reviewed by the National Academy of Sciences, under a \$608,000 contract from AID, but the delivery of the NAS findings is said to be two years off. Meanwhile, malaria, though virtually absent from the US, is estimated to afflict at least 150 million people worldwide and cause one to two million deaths annually. That's why AID, not normally a supporter of basic biomedical research, has become a major participant in financing malaria-vaccine research, now funded at about \$9 million a year, which is perhaps 35 percent of world expenditures in that field.

The most extensive, publicly available information on the turmoil in AID's malaria research is contained in a report issued October 17 by the GAO, which conducts investigations for the Congress. However, though 14 months in the works, and reportedly costing well over \$1 million to research and write, the GAO report is a skimpy product,

riddled with gaps on important major points. The major villain in the GAO account is Erickson, who headed the AID malaria program from 1982 to 1987—the period with which the GAO investigation is mainly concerned, but the GAO investigators acknowledge that in the conduct of their inquiry they did not meet with Erickson. He says that in August, as the GAO investigation was nearing completion, the GAO asked him for a meeting on short notice. He says he replied that his attorney couldn't meet on that date, and that

Foreign Aid: AID's Malaria Research Activities (NSIAD/90-09, 52 pp., no charge), order from: USGAO, PO Box 6015, Gaithersburg, Md. 20877; tel. 202/275-6241.

was the last he heard from the GAO.

As for the organization of the inquiry, the GAO states that it heavily relied on the AID Office of Inspector General, thus raising the question of who inspects the inspectors. "We reached an agreement with AID's Office of the Inspector General (OIG)," the GAO reports, "to ensure that our review would not impede ongoing investigations by that Office. We agreed to focus on broad management issues while the OIG would continue to investigate more specific criminal allegations. We coordinated our efforts with the OIG throughout our review." As it turns out, however, the AID Office of the Inspector General has been a bastion of incompetence throughout the affair, long ignoring allegations and evidence about the American Institute of Biological Sciences that the GAO now deems credible and worthy of investigation.

The GAO report states that under Erickson's management, the malaria-research program consisted mainly of a network of research centers that came in through unsolicited, non-competitive awards. The waiving of competition in 10 of 11 awards it examined was "questionable," the GAO reported without further explanation. But a telephone inquiry by SGR to a contracts specialist at AID brought the response that "the largest share of AID research is unsolicited," and he continued, "if an unsolicited proposal is unique, it is not subject to competition."

The GAO report comes down heavily on AIBS, which is noteworthy since Erickson's ouster from AID was precipitated by his charges of administrative and fiscal misconduct by AIBS. Though Erickson's long-ago requests for an investigation of AIBS by the AID Inspector General were rejected, the GAO report states that "AIBS mislabeled more than \$553,000 spent for other project activities as subcontract expenses on its monthly vouchers to AID." The GAO also charged that "AIBS was charging AID excessive salaries" for the Executive Director of AIBS and the malaria project director; also, that for a conference in Ft. Lauderdale in 1985, AIBS "billed AID for \$1400 for alcoholic beverages, \$225 for a harpist, and \$1050 for a band"—non-allow-

(Continued on Page 7)

To the Editor: NSF Head Says He Backs Education

I reject as inaccurate and misleading the headline (SGR, October 15) "NSF Director Opposes Boost in Education Funds."

The facts show that since 1982, NSF support for education and human resources has increased from \$34.2 million to \$286 million in FY 1989. That works out to an increase of 736 percent and includes pre-college math and science education, support for NSF fellowships and new young faculty, and increased support for women, minorities and the disabled.

In 1988, when I proposed to the Administration that they should commit to doubling the Foundation's budget by 1992, that commitment contained a plan for science and engineering education to more than double. But that projected increase—133 percent—included the programs and activities of the Directorate for Science and Engineering Education. Today, the entire Foundation provides support for education at a significant level.

If you focus only on the science education appropriation account, as you did in your article, you have ignored over 40 percent of the total investment in education and human resources being made by the NSF through the research

directorates. And while the Congress has understandably and repeatedly provided additional resources primarily for pre-college science education, I have focused on the entire educational pipeline and made it the number one priority for the Foundation. The NSF budgets submitted to the Congress testify to that fact.

I have spoken out time and again on the importance of investing in the development of this country's human resources; I will continue to do so. It is the most important issue facing the long-term health of this nation.

In your article, you have taken my words out of context, e.g., from a letter [to the Chairman of the Senate Appropriations Subcommittee for NSF] sent for one purpose—to state Administration position on various budgetary actions as compared to the President's budget pending before these Committees—and disregarded facts about my numerous actions on this issue.

I expected more factual reporting of my views on education than your article presented.

Erich Bloch
Director
NSF

Malaria Program

(Continued from Page 6)

able "luxury items" under AID rules.

As for the mysterious routing of AID research money via AIBS to the Colombian National Institute of Health and then into a Swiss account, the GAO report notes that AIBS has charged that "the principal researcher of this project defrauded the US government of about \$147,000 by submitting false claims to AIBS." The GAO report continues: "AID has not sought to recover any expenses from either AIBS or the Institute. The executive director of AIBS attributed this decision to 'sensitive relations' between the United States and Colombia on other issues."

Erickson contends that the US tried to use AID malaria funds as cover for anti-drug activities, and that his refusal to go along with that scheme created resentment in high places. But the GAO report does not address that contention.

In a statement issued October 20, AIBS noted that the GAO report concerns "matters... currently under continuing criminal investigation," and said it would not comment "other than to confirm that it participated extensively in GAO's review... and to acknowledge the overall factual soundness and accuracy of the GAO's findings and recommendations to the extent that they are based on information and records provided by AIBS."

Meanwhile, Erickson has been pursuing his allegations against AIBS under the federal False Claims Act. After he filed a suit last year, AIBS filed a False Claims suit against him, and the Justice Department came into the case on AIBS's side, arguing that, as a federal employee, Erickson

was ineligible to bring the action. In August, a Federal District Court judge ruled that Erickson is indeed eligible to sue under the Act. Dropped from the AID payroll immediately after he was indicted, he is appealing that action to the federal Merit Systems Protection Board.

The GAO inquiry was ordered by Senator Daniel Inouye (D-Hawaii) when he was chairman of the Appropriations Subcommittee on Foreign Operations. He since has moved to the chairmanship of the Defense Subcommittee, which raises uncertainty about Congressional attention to AID's mangled management of its malaria program. The whole episode calls for a thorough and skilled investigation.—DSG

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In Print: Technical-Info Policy, Manpower, SSC

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Federal Scientific and Technical Information in an Electronic Age: Opportunities and Challenges (36 pp., no charge), from the Congressional Office of Technology Assessment (OTA), requested by the House Science, Space, and Technology Committee, says a managerial strategy is lacking for the tidal wave of federally financed technical reports, rising at an annual rate of 200,000, atop a base of four million. Cool on an enlarged role for the Office of Management and Budget, which appears benumbed by the issue of private vs. government roles in info management, OTA says the policy and orchestrating roles should be taken on by the White House Office of Science and Technology Policy—questionable advice, given OSTP's prolonged convalescence from neglect under Reagan. The OTA report is a "staff paper," which means short and readable in the agency's hierarchy of publications.

Scheduled by OTA for Spring 1990: a "background paper" which will "analyze selected strategic elements of STI (scientific and technical information) dissemination in greater depth."

Order from: Office of Technology Assessment, Press Office, Congress of the United States, Washington, DC 20510-8025; tel. 202/228-6204.

Research Manpower: Managing Supply and Demand (70 pp., \$19), an international manifestation of concerns about adequacy of the R&D manpower supply toward century's end—long a popular issue in US science-policy circles. Published by the 24-nation Organization for Economic Cooperation and Development, the report covers manpower forecasts in member countries, demographic influences on supply and demand, trends in university staffing, and efforts to encourage women in careers in science and engineering.

Order from: OECD Publications and Information Center, 2001 L St. NW, Suite 700, Washington, DC 20036-4095; tel. 202/785-6323. Also available at bookshops and OECD offices in major cities throughout the world.

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Information on Site Selection Process for DOE's Super Collider (GAO/RCED-90-33BR, 26 pp., no charge), a retrospective by the General Accounting Office (GAO) on selection of a Texas site for the Superconducting Super Collider. Of interest to the legislators requesting the inquiry was Texas's dangling of a \$1-billion lure in state funds to attract the SSC—a sweetener prohibited by a 1987 amendment (backed by less-affluent states) that limited selection criteria to "the suitability of the site." In deadpan bureaucratic prose, GAO reports that "the executive director of the site task force told us that although the task force [evaluating proposed sites] had heard about the financial inducements, these public reports had no impact on its evaluation." The final selection was made by the Secretary of Energy, an SSC booster facing Congressional resistance to the cost of the mega-project. The GAO report does not address the role of the Texas billion at the crucial Secretarial stage.

Order from: USGAO, PO Box 6015, Gaithersburg, Md. 20877; tel. 202/275-6241.

[US Department of Energy] Small Business Innovation Research (SBIR): Abstracts of Phase I Awards, 1989 (DOE/ER-0417, 104 pp., no charge), from one of the biggest agencies in a Congressionally mandated federal program that is gaining regard as a fount of high-tech innovation. Now in its seventh year, the SBIR program lives off a 1.25 percent "tax" on spending by the big federal R&D agencies, with the money reserved for "high-risk" research by small enterprises. The DOE report here covers Phase I feasibility-study awards (most at the statutory ceiling of \$50,000) to 154 applicants selected from among 1543 in Fiscal 1989. (Phase II awards can run as high as \$500,000).

Also available: DOE's **SBIR Program Solicitation** (DOE/ER-0416, 89 pp., no charge), identifying areas of DOE interest for the next batch of SBIR awards. Deadline for applications: January 23, 1990.

Order from: SBIR Program Manager, Office of Energy Research, US Department of Energy, ER-16, Room E-201, Washington, DC 20545; tel. 301/353-5867.

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